

## Introduction Activity

### Purpose

This activity is designed to introduce the concepts of linear and parallel activities.

### Equipment

1. Quantity of 2' x 3' construction paper equal to the number of students or groups in class.
2. Quantity of Student copies of Intro Activity equal to the number of students or groups in class. (pgs. 2-5)
3. Scissors, glue or tape, markers, or crayons equal to the number of students or groups in the class.
4. Watch
5. Answer Sheet [Introduction Activity Solution.xls](#)
6. 40 Minutes.

### Before Activity

1. Copy and gather all materials.
2. Complete discussion notes.

### In Class Procedure

A. Begin the class by leading a discussion as to what is serial and parallel activity.

1. Serial means linear, you do one thing in a specific sequence and arrive at predetermined destination.
2. Parallel means that you can do several things, multitasking, or take several different routes to arrive at predetermined destination.
  - a. Serial uses AAA triptick to drive 100 packages (10 @ a time) to Cleveland in a UPS truck.
    1. It takes 10 trips
  - b. Parallel uses USP truck to deliver the 100 packages to the airport, UPS puts all of them on plane, flies them to Cleveland, and another UPS pick them up and delivers them.
    1. It takes 1 trip
    2. You could take 10 trucks, take different routes, and make 1 trip
    3. You could put them on the train.

A. Go over procedure with class and check for understanding. (Allow Students time to read Activity)

1. Make sure all students have a pencil and all students once seated remain seated in that position.
2. Point out the location of the necessary supplies for this activity.
3. Split class into groups or individuals.
4. Pass out student copies and begin.
5. Remind the students of the parameters, that they have only 25 minutes, and to turn them in when they are done.

B. Pass out completed to schedules to different classmates, and correct.

1. Go over correct answer and discuss their solutions.
  - a. Lead a discussion on pointing right and incorrect answers and why.
2. Lead them to compare the activity they just completed to their concept of a computer.
  - a. Correlate their activity to multiprocessor computer.

D. Summarize what they discovered and have them write it down on the back of their solutions.

### Fastest Housing Inc.

You are interviewing for a general contractor position for Fastest Housing Incorporated. It now takes them 87 days to build one of their designer homes. You and all of the other candidates have been given a test, the one of you who can build the house in the least amount of time will be hired. You are to assume no labor or material shortages, weather problems, financial concerns, or quality issues. The following parameters will be strictly enforced and any violations will result in you not being hired.

Good Luck and think parallel!

1. You can't work on wet concrete.
2. You can't do anything while the concrete is drying.
3. No interior or exterior work can be done until the roof is framed.
4. All interior rough work must be done before the interior walls have plasterboard on them.
5. Windows can't be installed until the interior walls have plasterboard on them.
6. Interior finish work must be done after the interior walls are plastered.
7. You have only 1 crew per category i.e. 1 plumber or 1 electrician.
8. Flooring has to be completed before the finished plumbing and carpentry work.
9. Painting can only be done after all the finish interior work is completed.
10. You can only have 2 crews inside per floor.
11. There is no limit of crews on the outside of the house.
12. All crews start and stop at the same time, no staggered shifts.
13. The driveway has to be done before the landscapers can finish.
14. Common sense is applicable at all times.

### Completion Requirements

1. You must submit a flow chart with each **step numbered**, **labeled**, **crew**, and **time required** in the figure.
  - a. Your flowchart will be on the supplied paper.
  - b. The boxes will come from the 2 page table provided.
    1. You will cut apart the table by task and affix them to the supplied paper.
    2. You will have to draw lines showing the flow of work. (See Example A)
    3. Neatness counts.
2. Your name, date, and period must be on it along with the total time required for your house building.
3. Incomplete projects will result in you not being hired.

### STEPS AND TIMES TO BUILD 1 HOUSE

Step	Task	Crew	Time (days)
1	Excavate and pour foundation	Masonry	3
2	Let foundation dry	None	3
3	Build basement walls	Masonry	2
4	Excavate & install main house drains, gas lines, and water lines	Plumbers	1
5	Pour concrete floor	Masonry	2
6	Let floor dry	None	3
7	Frame 1 <sup>st</sup> floor of house & install steps	Rough Carpenters	3
8	Frame 2nd floor of house & install steps	Rough Carpenters	3
9	Frame roof of house	Rough Carpenters	2
10	Install all windows in basement	Window Installers	1
11	Install all windows on 1 <sup>st</sup> Floor	Window Installers	1
12	Install all windows on 2 <sup>nd</sup> Floor	Window Installers	1
13	*Basement: Install all water & gas lines, drains stacks, and vents	Plumbers	1
14	*1 <sup>st</sup> & 2 <sup>nd</sup> Floors: Install all water & gas lines, drain stacks, and vents	Plumbers	3
15	Install shingled roof	Roofers	1
16	Install exterior insulation & siding	Siding Installers	3
17	Install all exterior trim, and doors	Finish Carpenters	1
18	*Basement: run wires i.e. outlets, switches, lights, furnace, AC, install breaker box, and finish outlets, switches, and light install	Electricians	2
19	*Basement, 1 <sup>st</sup> & 2 <sup>nd</sup> Floor: Run ductwork	HVAC	4
20	*1 <sup>st</sup> Floor: run wires and install boxes i.e. outlets, switches, and lights	Electricians	3

21	*2 <sup>nd</sup> Floor: run wires and install boxes i.e. outlets, switches, and lights	Electricians	3
22	*Install all interior insulation 1 <sup>st</sup> & 2 <sup>nd</sup> Floor	Insulation Installers	2
23	1 <sup>st</sup> Floor: hang plaster board	Plasters	2
24	\$1 <sup>st</sup> Floor: Plaster	Plasters	2
25	2 <sup>nd</sup> Floor: hang plaster board	Plasters	2
26	\$2 <sup>nd</sup> Floor: Plaster	Plasters	2
27	\$1 <sup>st</sup> Floor: finish all outlets, switches, and lights installation	Electricians	2
28	\$2 <sup>nd</sup> Floor: finish all outlets, switches, and lights installation	Electricians	2
29	\$Install all faucets, sink, and fixtures in basement & outside	Plumbers	2
30	\$Finish installing furnace and AC	HVAC	1
31	\$Install all interior trim, doors, and cabinets basement	Finish Carpenters	2
32	\$Install all flooring 1 <sup>st</sup> & 2 <sup>nd</sup> Floor	Floor Installers	2
33	\$Install all interior trim, doors, and cabinets 1 <sup>st</sup> floor	Finish Carpenters	5
34	\$Install all interior trim, doors, and cabinets 2 <sup>nd</sup> floor	Finish Carpenters	3
35	\$Install all faucets and fixtures on 1 <sup>st</sup> floor	Plumbers	3
36	\$Install all faucets and fixtures on 2 <sup>nd</sup> floor	Plumbers	2
37	Paint basement & 1st Floor	Painters	2
38	Paint 2 <sup>nd</sup> Floor	Painters	1
39	Excavate and pour driveway	Masonry	2
40	Landscape	Landscapers	2
	<b>1 COMPLETE HOUSE</b>	<b>TOTAL DAYS</b>	<b>87</b>

\* Indicates Rough Interior Work

\$ Indicates Finish Interior Work

## Example A

1	Excavate and pour foundation	Masonry	3



2	Let foundation dry	None	3